Claims

1. An implant comprising:

electrically-conductive closed loops forming an apertured wall of the implant with an interior volume, each of said loops being formed from loop portions providing electrically-conductive current pathways within which eddy currents are liable to be induced when subjected to a time-dependent external magnetic field, each of said loops consists of a first current pathway and a second current pathway wherein said first current pathway and said second current pathway are arranged such that, regardless of the direction of said external magnetic field, the direction of the eddy current that would be induced by said field in said second current pathway is the reverse of the direction of the eddy current that would simultaneously be induced by said field in said first current pathway, thereby to prevent flow of eddy currents in each of said loops.

2. The implant according to claim 1, wherein each of said loops has loop portions formed as a first lobe and as a second lobe of a figure of eight, and further compromises a cross-over point between said first lobe and said second lobe.

3. The implant according to claim 2, further compromising an electrically-insulating joint between said two loop portions at said cross-over point.

4. The implant according to claim 2 or 3, wherein each of said loops has additional lobes and additional cross-over points between said additional lobes, with the areas bounded

by the lobes being such that, in aggregate, the area bounded by one set of lobes equals the area bounded by a cancelling remainder of the lobes.

5. The implant according to any one of the preceding claims, wherein the implant has a central longitudinal axis and said interior volume is tubular and centred on said axis.

6. The implant according to claim 1 or 5, wherein each of said loops wraps around said axis in the form of a spiral with an integral whole number of turns.

7. The Implant as claimed in claim 6, the integral whole number of turns being at least three.

8. The implant according to claim 6 or 7, wherein each of said loops that wraps around the axis lies within an envelope that is transverse to the axis.

9. The implant according to claim 6, 7 or 8, wherein each of said loops wraps around the axis in a path that spirals around the axis from one end of the implant to the other.

10. The implant according to any one of claims 6 to 9, wherein the pitch of said spiral path is constant.

11. The implant according to any one of the preceding claims, wherein loop portions correspond to struts that are joined end-to-end to each other and can deploy in use to form a zig-zag pattern.

12. The implant according to any one of the preceding claims, with the plurality of loops arranged mutually axially adjacent, and spaced along the axis.

13. The implant according to claim 12, wherein adjacent loops are connected to each other by electrically-insulating links.

14. The implant according to any one of the preceding claims, wherein each of said loops includes a plurality of electrically-insulating links that connect spaced loop portions of said loop.

15. The implant according to claim 13 or 14, wherein each link is a mechanical coupling with a first cooperating link portion and a second cooperating link portion.

16. The implant according to claim 15, wherein the cooperating portions can move relative to each other.

17. The implant according to claim 16, wherein the cooperating portions are constituted as a hook portion and an eye to receive the hook portion.

18. The implant according to any one of claims 15, 16 and 17, and including a layer of bonding material between the cooperating link portions.

19. The implant according to claim 18, wherein the bonding material is ceramic.

20. The implant according to claim 18, wherein the bonding material is an adhesive composition.

21. The implant according to any one of claims 15 to 20, wherein the mechanical coupling comprises interlocking fingers.

22. The implant according to any one of claims 15 to 21, wherein the mechanical coupling comprises mechanically-engaging surfaces in combination with at least one restraining strap overlying the engaging surfaces.

23. The implant according to any one of claims 13 to 22, wherein each link includes a molded connector piece.

24. The implant according to any one of claims 13 to 23, wherein each link includes a portion that is locally thinned with respect to the thickness of the wall of the implant.

25. The implant according to any one of the preceding claims, in which the wall of the implant is an apertured tube.

26. The implant according to any one of the preceding claims, wherein the implant is made of nickel-titanium shape memory alloy.

27. The implant according to any one of claims 1 to 25, wherein the implant is made of stainless steel.

28. The implant according to any one of the preceding claims, wherein the implant is a stent.

29. The implant according to claim 28, wherein the stent is radially expansible from a radially compact delivery

configuration to a radially larger deployed configuration, and the stent is capable of being delivered transluminally by a catheter.

30. The implant according to any one of claims 1 to 27, wherein the implant is a filter.

31. The implant according to any one of claims 1 to 27, wherein the implant is a valve.

32. The implant according to any one of claims 1 to 29, wherein the implant is a graft.

33. The implant according to any one of the preceding claims, wherein the implant is a self-expanding implant delivered transluminally in a radially compact configuration and capable of self-expansion into a radially larger deployed configuration at an implant site.

34. The implant according to any one of claims 1 to 3, wherein each closed loop exhibits lobes, with an equal lobe area on opposite sides of the interior volume.

35. An implant tube comprising:

an electrical conductor, said electrical conductor having a plurality of closed loops electrically insulated from each other, each of said closed loops having a periphery of a string of equal area lobes that are within said closed loop, and every one of said lobes has a counterpart lobe located diametrically opposite on the implant tube.

36. The implant tube according to claim 35, wherein each of said loop having an even number of lobes.